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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,797	03/27/2001	Michael Hermann	741124-79	8356

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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 09/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/817,797

Applicant(s)

HERMANN, MICHAEL

Examiner

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features concerning the "electronic means" recited in claims 1-2 and the "electronic means and electronics or computer" recited in claim 3 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. Figures 1 and 2 should be designated by a legend such as *--Prior Art--* because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

3. The information disclosure statement filed July 17, 2001 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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5. **Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.**

The specification and the claims fail to teach how could the relative position of two elements be measured by simply having a light source, two opto-electronic sensors and an electronic means that have no structural connection or logic with respect to the two elements.

The specification and the claims fail to teach how could a masked light beam be generated.

The specification and the claims also fail to teach how could the relative position of two elements be measured by (1) computing the relative position of the electronic means relative to the incidences of the light on the surfaces of the sensors (as in claim 1), (2) computing the relative position of the at least one masked light beam relative to the first sensor (as in claim 2), or (3) computing the relative position of the housing relative to the incidences of the at least one masked light beam on the surfaces of the sensors (as in claim 3). It is not clear how does the position of electronic means or the position of housing have anything to do with the relative position of two elements. It is also not clear what is considered to be a position of a light beam and how can such by measured.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The phrase "reflected ... proportionally" recited in claims 1-3 is indefinite and confusing since it is not clear what does it mean by "proportionally".

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The phrase "essentially directly" recited in claims 1-3 is confusing and indefinite since it is not clear what does it mean.

The phrase "the optoelectronic sensor" recited in claim 3 is indefinite since it lacks proper antecedent basis from earlier part of the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Holzl (PN. 5,026,998) in view of the patent issued to Jonsson (PN. 4,717,820).**

Holzl teaches an alignment measurement mechanism for measuring the relative positions between two shafts (1 and 2), serves as the two elements, wherein the mechanism comprises a *light source* (5) for generating a light beam (s) that incidents on a reflective surface (6) of the second shaft (2). The light is then reflected by the reflective surface to an opto-electronic detector (7), located on the first shaft, for detecting the reflected light. A data converter (3) and a computer (4), serve as the electronic means and computer, are included for processing the detected light signal of the detector to measure the relative position of the two shafts.

This reference has met all the limitations of the claim with the exception that it does not teach the reflected light beam is generated by an opto-electronic detector. However, as disclosed by the teachings of Jonsson, a reflective type of opto-electronic detector is very well known in the art. It would then have been obvious to use a reflective type of detector for the reflective surface to generate the reflected light

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beam from the second shaft for the purpose of more accurately measuring the relative positions of the two shafts.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art in view of the patent issued to Jonsson.

Applicant admitted prior art (Figure 1) teaches to determine the relative positions of two shafts by using a light source for generating light beam to two opto-electronic detectors. A partially reflecting mirror is used to relate the signal light detected on the detectors wherein the signal light makes folded light paths between the detectors and the mirror. Calculating electronics for computing the relative positions from the detected signals are implicated included to determine the relative positions. This reference has met all the limitations of the claim with exception that it does not teach that the reflection of signal light by the mirror is achieved by one of the opto-electronic detectors. However, as disclosed by the teachings of Jonsson, a reflective type of opto-electronic detector is very well known in the art. It would then have been obvious to use a reflective type of opto-electronic detector to also generate the reflected light beam from the second shaft for the purpose of providing a compact design for the mechanism of determining the relative positions of the two shafts.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

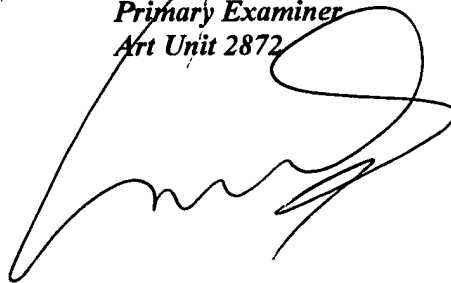
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang
Primary Examiner
Art Unit 2872

A.Chang Ph.D.
September 18, 2002

A handwritten signature in black ink, appearing to be 'Audrey Y. Chang', written over the printed name and title.